

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/15836

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.<sup>7</sup> A61K38/17, 31/7088, 39/395, 45/00, 48/00, A61P13/12

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.<sup>7</sup> A61K38/17, 31/7088, 39/395, 45/00, 48/00, A61P13/12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MEDLINE, CAPLUS, EMBASE, BIOSIS (STN), JMEDPLUS (JOIS)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/077642 A1 (Nippon Shinyaku Co., Ltd.), 02 October, 2002 (02.10.02), Full text; Figs. 1 to 5 (Family: none)	1
X	Inoue CN. et al., 'Lysophosphatidic acid and mesangial cells: implications for renal diseases.', Clin.Sci.(Lond)., 1999 April; 96(4): 431-6.	1
X	Katsuma S. et al., 'Genomic analysis of a mouse model of immunoglobulin A nephropathy reveals an enhanced PDGF-EDG5 cascade.', Pharmacogenomics J.2001; 1(3):211-7.	1

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search  
19 March, 2004 (19.03.04)Date of mailing of the international search report  
06 April, 2004 (06.04.04)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/15836

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Hanafusa N. et al., 'Sphingosine 1-phosphate stimulates rat mesangial cell proliferation from outside the cells.', Nephrol.Dial.Transplant. 2002 April; 17(4):580-6.	1
A	EP 1195165 A1 (ONO PHARMACEUTICAL CO.), 10 April, 2002 (10.04.02), Full text & WO 01/03739 A1	1
A	WO 99/33972 A1 (ALLELIX BIOPHARMA), 08 July, 1999 (08.07.99), Full text & JP 2002-500008 A	1
P,X	JP 2002-360118 A (Nippon Shinyaku Co., Ltd.), 17 December, 2002 (17.12.02), Full text (Family: none)	1
E,A	WO 03/051876 A1 (Japan Tobacco Inc.), 26 June, 2003 (26.06.03), (Family: none)	1
E,A	WO 2004/002430 A1 (ONO PHARMACEUTICAL CO.), 08 January, 2004 (08.01.04), (Family: none)	1
E,A	WO 03/099765 A1 (ONO PHARMACEUTICAL CO.), 08 December, 2003 (08.12.03), (Family: none)	1

# INTERNATIONAL SEARCH REPORT

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## Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 20

because they relate to subject matter not required to be searched by this Authority, namely:

Claim 20 pertains to methods for treatment of the human body by therapy and thus relates to a subject matter which this International Searching Authority is not required, under the provisions of Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.

2. ☐ Claims Nos.:

because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:

because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
(See extra sheet.)

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
The part using EDG-5 receptor in claim 1.

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

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Continuation of Box No. II of continuation of first sheet(1)

Claims 1 to 19 and 21

It is recognized that the following 18 groups of inventions are described in the above claims.

- (1) The part using EDG-2 receptor in claim 1.
- (2) The part using EDG-3 receptor in claim 1.
- (3) The part using EDG-5 receptor in claim 1.
- (4) The parts relating to EDG-2 receptor in claims 2 and 3.
- (5) The parts relating to EDG-3 receptor in claims 2 and 3.
- (6) The parts relating to EDG-5 receptor in claims 2 and 3.
- (7) The parts relating to EDG-2 receptor in claims 4 and 5.
- (8) The parts relating to EDG-3 receptor in claims 4 and 5.
- (9) The parts relating to EDG-5 receptor in claims 4 and 5.
- (10) The parts relating to EDG-2 receptor in claims 6 and 7.
- (11) The parts relating to EDG-3 receptor in claims 6 and 7.
- (12) The parts relating to EDG-5 receptor in claims 6 and 7.
- (13) The parts relating to (1) in claim 21 in claims 8, 9 and 14.
- (14) The parts relating to (2) in claim 21 in claims 10, 11 and 15.
- (15) The parts relating to (3) in claim 21 in claims 12, 13 and 16.
- (16) The parts relating to EDG-2 receptor in claims 17 to 19 and the parts relating to (4) EDG-2 receptor in claim 21.
- (17) The parts relating to EDG-3 receptor in claims 17 to 19 and the parts relating to (4) EDG-3 receptor in claim 21.
- (18) The parts relating to EDG-5 receptor in claims 17 to 19 and the parts relating to (4) EDG-5 receptor in claim 21.

(1) to (3)

The invention according to claim 1 relates to a preventive/remedy for diabetic nephropathy, chronic renal failure and so on containing EDG-2 receptor, EDG-3 receptor or EDG-5 receptor or its peptide fragment or its salt.

As stated in the description of the present application (p. 12, 1.27 to p.13, 1. 12), the above-described receptors are each publicly known. Moreover, it seems that these receptors do not always have a property or an activity in common in the cause of using for medicinal purposes, referring to WO 02/077642 A1, etc. Such being the case, it does not appear that there is any technical relationship involving "a special technical feature" among (1) to (3) and thus these groups of inventions do not comply with the requirement of unity of invention.

(4) to (12)

"An amino acid sequence, its peptide fragment or its salt" (claim 1), "a polynucleotide" (claims 2 and 3), "an antibody" (claims 4 and 5) and "a polynucleotide having a complementary base sequence or a part thereof" (claims 6 and 7) are different substances from each other. Thus, it does not appear that there is any technical relationship involving "a special technical feature" among preventives/diagnostics or remedies comprising the same and thus these groups of inventions do not comply with the requirement of unity of invention.

(13) to (18)

Considering that WO 02/077642 A1 has been publicly known, it does not appear that there is any technical relationship involving "a special technical feature" among (1) to (3) and (13) to (18) and thus these groups of inventions do not comply with the requirement of unity of invention.